"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR

UDC 669.14.018.58:621.78

LANKO, A. I., OBLEZIN, A. G., and SLYUSAREV, I. F., Novocherkassk Scientific Research Institute of Permanent Magnets

"Methods of Treating Ticonal Magnets"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, Jan 73, pp 71-72

Abstract: The magnetic properties of four-pole rotor magnets made of ticonal alloys were compared after heat treatment according to a mode currently used in industrial conditions and according to a newly proposed method. Chemical composition of the ticonal alloys was (in %):

	Co	Ni	Al	Fe	Ti	Cu	S	Si	Nb
Alloy 1	35	14.5	7.8	34.2	5.5	3	0.2	-	-
Alloy 2	35	12.4	6.2	35	5.5	3	0.2	0.2-0.3	1

The existing method of heat treating ticonal magnets consists basically in heating the magnets to 1250°C with isothermal soaking in a molten aluminum bath (815°C) with an applied magnetic field of 4500-5000 Oe. The new method consists in soaking at 1250°C for 10 minutes and then placing the magnets

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LANKO, A. I., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, Jan 73, pp 71-72

in a brass vessel situated between the four poles of the magnetizing unit with an applied magnetic field of 300 Oe, which is turned on for 6-7 minutes. As the magnets cool, they heat up the brass vessel which slows down the cooling rate of the magnets. The new method of magnet heat treatment yields magnets with higher and more stable magnetic properties than the current method. No differences in magnet structure were detected for the two heat treatment modes used. Magnets made using alloy 2 had the better properties. 2 tables.

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UDC: 621.373.431

USSR

DOMBROVSKAYA, G. S., LAN'KO, E. V., RIPINSKIY, A. N.

"A Nanosecond Pulse Shaper-Limiter"

Tr. 7-y Konferentsii po yadern. elektron. T. 2, Ch. 2 (Works of the Seventh Conference on Nuclear Electronics. Vol 2, Part 2), Moscow, Atomizdat, 1970, pp 171-173 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7G271)

Translation: The article describes a shaping circuit which uses a section of line shorted across the end and connected in the cathode circuit of a cathode-plate buffer stage. Use of this type of circuit extends the range of amplitudes of the input pulses while maintaining a very steep leading edge. Bibliography of two titles. N. S.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR UDC: 621.372

LANNE, A. A.

"Approximation Problems in Modern Circuit Synthesis"

Kiev, Izvestiya VUZov, Radioelektronika, Vol 15, No 2, Feb 72, pp 141-157

Abstract: A very brief survey of fundamental problems related to optimum construction of linear electric circuit functions. The problem of optimum synthesis is formulated as a problem in nonlinear programming, which is then studied by reduction to four basic problems: a) formalization, i. e. representing the problem of constructing a circuit function in the form of some mathematical approximation (a mathematical programming problem); b) the problem of solvability; c) the problem of algorithms for constructing optimum solutions; d) criteria for universal optimality and evaluation of how close steady-state solutions come to universal solutions. Each problem is treated separately. Four figures, three tables, bibliography of thirty-eight titles.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

UDC 621.372.061.2

USSR

GOLUBNICHIY, A.F., LANNE, A.A., RYABOV, YU.D.

"Stability Criteria Of The Frequency Characteristics Of Microelectronic Active RC-Circuits"

Elektrosvyaz', No 3, Mar 1972, pp 53-59

Abstract: Criteria are considered and functions are found for an evaluation of the stability of the frequency characteristics of microelectronic active RC-circuits. The real mechanism of the destabilization of frequency characteristics is considered. Functions are found as criteria for evaluation of the deviations of the amplitude-frequency characteristic and phase-frequency characteristic of a circuit. Two examples are given which illustrate the basic results of the work. 2 fig. 1 tab. 19 ref. Received, 9 Mar 1971.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR

UDC 612.111:612.27:616-036.882-08

LANOVENKO, I. I., and SAVEL'YEVA, L. O., Section of Hypoxial States of the Physiology Institute imeni O. O. Bogomolets, Kiev, Academy of Sciences Ukrainian SSR

"Changes in Red Blood Indexes in Dogs During Alpine Acclimatization and Resuscitation After a Long Clinical Death"

Kiev, Fiziologichnyy Zhurnal, Vol 18, No 2, Mar/Apr 72, pp 223-229

Abstract: Changes in the number of erythrocytes, reticulocytes, hemoglobin, and hematocrit cells of the peripheral red blood in dogs during a step-wise acclimatization (at 2100, 3700, and 4200 m) were studied. After 32 days of acclimatization the number of erythrocytes increased to 7.04±0.43 million/mm^3 of blood (control 6.07±0.15); reticulocytes to 16±0.6% (control 9±0.4%); hemoglobin to 20.02±0.31 g % (control 14.88±0.22 g %); hematocrit cells to 58% (control 43±0.6%). The average concentration of hemoglobin in a single erythrocyte and average volume of a single erythrocyte also increased. The red blood of dogs that were resuscitated after long clinical death caused by a hemorrhage differed. Blood indexes in dogs that survived were different from those of dogs that perished after resuscitation. A decrease in the content of all red blood components was observed during the resuscitation period (by artificial blood circulation from a dog-donor) in all cases. However,

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LANOVENKO, I. I., and SAVEL'YEVA, L. O., Fiziologichnyy Zhurnal, Vol 18, No 2, Mar/Apr 72, pp 223-229

the amount of erythrocytes, hemoglobin, hematocrit cells, and reticulocytes was different for dogs that survived as compared with those that perished after resuscitation. A normalization in the red blood composition in surviving dogs was established within 3-4 hours after resuscitation and all blood indicators were completely normal in 24 hours. A lower concentration of erythrocytes, hemoglobin, hematocrit cells, and reticulocytes immediately after resuscitation is attributed to blood dilution caused by blood from the dog-donor. A favorable course of blood normalization and restoration of other life functions after resuscitation in dogs that underwent Alpine acclimatization indicated that adaptation of the animal organism to high elevations was beneficial in this case, in comparison with dogs that were not subjected to high altitude acclimatization.

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1/2 016 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--ACOUSTIC PROPERTIES OF PYRIDINE CHLOROFORM SOLUTIONS -U-

AUTHOR-(03)-MUSAYEV, T.N., LANSHINA, L.V., KHABIBULLAYEV, P.K.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK UZB. SSR, SER. FIZ.-MAT. NAUK 1970, 14(1), 83-4

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--PYRIDINE, CHLOROFORM, ULTRASONIC FREQUENCY, ACOUSTIC PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1876 STEP NO--UR/0166/70/014/001/0083/0084

CIRC ACCESSION NO--AP0123664

UNCLASSIFIED

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2/2 016 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123664

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE PROPERTIES WERE STUDIED BY AN IMPULSE METHOD AT 20DEGREES. AT THE ULTRASOUND FREQUENCY OF 39 MHZ, THE ABSORPTION COEFFS. ALPHA PER FUNCTION PRIME2 OF PURE C SUB5 H SUB5 N AND CHCL SUB3 ARE 4.10 TIMES 10 PRIME NEGATIVE15 AND 4.78 TIMES 10 PRIME NEGATIVE15 SEC PRIME2 PER CM, RESP.; THE (ALPHA PER FUNCTION PRIME2) TIMES 10 PRIME15 VALUES OF MIXTS. WITH THE C SUB5 H SUB5 N MOLE FRACTION CHI OF 0.18, 0.32, 0.56, AND 0.78 ARE 3.86, 3.69, 3.42, AND 3.80 SEC PRIME2 PER CM, RESP. THE MIN. ON THE ALPHA PER FUNCTION PRIME2 VS. CHI CURVE BECOMES LESS PRONOUNCED ON INCREASING THE ULTRASOUND FREQUENCY FROM 39 TO 1800 MHZ AND THE CURVE IS MONOTONIC WITH HYPERSOUND OF THE FREQUENCY OF (3-5) TIMES 10 PRIME9 HZ. THE EXPTL. DISPERSION OF THE HYPERSOUND VELOCITY IN C SUB5 H SUB5 N-CHCL SUB3 MIXTS. IS LOWER THAN THE THEORETICAL ONE, SUPPOSEDLY BECAUSE PROCESSES OF THE VIBRATION AND STRUCTURAL RELAXATIONS PROCEED SIMULTANEOUSLY. FACILITY: MOSK. GOSUNIV. IM. LOMONOSOVA, MOSCOW, USSR.

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USSR UDC: 669.14.018.44:620.17

LANSKAYA, K. A., and KAMENSKAYA, N. I., Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin

"The Effect of Thermomechanical Treatment on the Heat-Resisting Properties of the 1Kh14N18V2B Grade of Steel With Boron"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 6, 1973, pp 5-6

Abstract: The authors study the possibility of increasing the heat-resisting properties of the 1Kh14N18V2B grade of austenitic steel by thermomechanical treatment and by microalloying with boron. The results show that the thermomechanical treatment of the above grade of steel significantly increases its heat-resisting properties in comparison with austenization. At the same time, microalloying of the steel with boron also raises its heat-resisting properties. The heat-resisting properties of steel with boron increase more intensively after thermomechanical treatment than is the case for steel without boron. The heat-resisting properties obtained for steel with boron after thermomechanical treatment are more stable during a long service life under conditions of high temperatures and stress.

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UDC 621.186.7

USSR

LANSKAYA, K. A., Doctor of Technical Sciences, Central Scientific Research Institute of Ferrous Metallurgy

"On Boiler Steels for High-Power Installations"

Moscow, Teploenergetika, No. 7, Jul 72, pp 32-35

Abstract: Extensive studies of new methods of smelting and casting as applied to the production of tubular blanks of 12Kh1MF steel are described that were conducted at the Central Scientific Research Institute of Ferrous Metallurgy. The effect of synthetic slag processing of the metal, of electroslag remelting and of continuous casting of the steel on many properties, including heat resistance, were studied. Also studied was the effect of residual elements on the properties of 12Kh1MF steel. Studies of the quality of a tubular blank and tubes of 12Kh1MF steel made from the metal obtained by the electroslag remelting showed the following: metal obtained by this method contains less oxygen and hydrogen by a factor of 2 and less nonmetallic inclusions by a factor of 4-5 as compared with ordinary methods. The macrostructure of a tubular blank of this metal was

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LANSKAYA, K. A., Teploenergetika, No. 7, Jul 72, pp 32-35

dense and had practically no defects. The long-term strength was 10-15% higher than that of ordinary metal on the basis of preliminary data. It is recommended that steam superheater and steam conducting tubes be fabricated of this material, especially for high-power units of 300 and 1200 MW in order to increase their reliability. It is noted that the successful solution of the problem of reliability and longevity of operation of heat-resistance boiler steels also requires the correct technology for carrying out such operations as bending and welding of the tubes, so that the properties of the metal of the tubes are not reduced under these operations. Despite the fact that the negative effect of high-temperature and extended annealing at 750°C for 5 hrs of a welded joint and high-temperature heating at 400-450°C in welding tubes of this steel has been shown to have a negative effect on the properties of the zone near the weld, these practices continue in factors the author observes, giving as the basic reason for the use of these operations in welding of 12KhlMF steel the unfounded use of wire of steel more alloyed than 12KhlMF as electrodes. The properties of this steel under bending are discussed and it is noted that studies show that the operational use of such bends fluctuated from 12,000 to 35,000 hrs. The author observes that Cr-Mo-V-steel of type 12KhlMF has higher heat-resistant properties than steels used in other countries for boiler applications.

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UDC 620.18

USSR

KULIKOVA, L. V. (Engineer), LANSKAYA, E. A. (Doctor of Technical Sciences), and MOISEYEV, A. A., Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin; All-Union Institute of Heat Engineering imeni F. E. Dzerzhinskiy

"Changes in the Structure and Properties of Certain Austenitic Steels Under Service Conditions"

Moscow, Teploenergetika, No 1, Jan 72, pp 43-46

Abstract: The service reliability study involved E50i, EP399, and EP400 iron-chromium-nickel steels tested within 670-720°C. The stability of the structure and the properties served as the principal criterion. The changes in both structure and property levels as a function of service length during a major overhaul period (generally, once a year) were studied on the branch pipes of an experimental superheater coil. The test pieces were analyzed for their mechanical properties, microstructure, composition of electrolytic deposits, hardness and microhardness and lattice parameters of the solid solution. The study is detailed and the data are presented in tables and curves. Of all tested steels, EP400 demonstrated the highest structural

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KULIKOVA, L. V. (Engineer), et al, Teploenergetika, No 1, Jan 72, pp 43-46

and property stabilities, while EP399 was least stable in both respects. In EP501 steel, the structural and property stabilities were lower than in EP400; however, the mechanical properties of EP501 after 30,000 hrs of service appeared to be higher. The high-temperature strength of EP501 and its fairly satisfactory structural and property stabilities make this steel qualified for more extensive service test in real heat engineering units. Despite its satisfactory behavior in service, EP400 seems to lack the necessary workability. The test data on EP399 steel have so far been inconclusive and a longer service testing period is suggested. (2 illustrations, 4 tables, 3 bibliographic references).

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR UDC 669.15.018.44

LANSKAYA, K. A., and LOGUNOV, V. V.

"Recrystallization Processes in EP503 and EI439 Ferritic-Class Steels"

Sb. tr. TsNII chern. metallurgii (Collection of Works of Central Scientific Research Institute of Ferrous Metallurgy), 1970, vyp. 77, pp 18-22 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3I622 by authors)

Translation: The article considers the process of recrystallization of hardened steels of the ferritic class EP503 (0.1% C, 2.3% Cr, 0.3% V, 5 and 8% W, 0.1 and 0.7% Mo, 1.2 and 1% Nb) and EI439 (0.1% C, 25% Cr). Recrystallization temperature intervals are established for the investigated steels as a function of strain percent. It is shown that steel with 8% W (EP503), hardened with a Laves phase (Fe_2W), has a recrystallization temperature interval approximately 250° higher than steel with 25% Cr. This interval is in the 900-1000° range. The Laves phase is practically unsegregated with a decrease in the W content of steel EP503 to 5%, which results in a lower temperature for the beginning and end of recrystallization. However, this interval is at higher temperatures than in steel alloyed with 25% Cr (EI439). Two illustrations. Two tables. Bibliography with three titles.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

UDC 669.15.018.85

USSR

GORCHAKOVA, E. N., and LAISKAYA, K. A.

"Heat Resistance of Steels with 2.5% Cr, Alloyed With Tungsten, Molybdenum, and Niobium"

Sb. tr. TsNII chern. metallurgii (Collection of Works of Central Scientific Research Institute of Ferrous Metallurgy), 1970, vyp. 77, pp 23-27 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3I632 by authors)

Translation: The article gives experimental data on the heat resistance of steels of the ferritic class with 2.5% Cr (12Kh2MFB, 12Kh1I5FB, 12Kh2MV5FB, 12Kh2MV8FB, and 12Kh2M5V5FB), additionally alloyed with tungsten, molybdenum, niobium, and additions of boron and titanium. It is shown that steels with 8% W and with 5% W and 5% Mo, intended for operation in power plants, possess satisfactory heat resistance at temperatures up to 700°. Alloying of steels with molybdenum to 5% and a decrease in the Nb content reduce the oxidation resistance of the steels. Addition of B (0.005%) and Ti (0.01%) reduces heat resistance slightly. Two illustrations. One table. Bibliography with six titles.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR UDC 669.017.1.669.15-194.55

LAVSKAYA, K. A., and KOBOZEVA, Z. T.

"Martensitic-Aging Steels, Hardened by Intermetallic Phases NiAl and NiTi"

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works], No 77, Metallurgiya Press, 1970, pp 11-18

Translation: Results are presented from a study of Cr-Mo-V martensitic-aging steel, alloyed with Ni, Al, and Ti. The austenite conversion is studied during continuous cooling at various rates. Phase chemical analysis, mechanical tests at room temperature and elevated temperatures, long-term strength tests, and thermal brittleness tests are performed. 3 figures; 2 tables; 2 biblio. refs.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR

UDC 669.017.1:669.15-194.57

GORCHAKOVA, E. N., and LANSKAYA, K. A.

"High-Temperature Oxidation Resistance of Ferritic Steels With 2.5% Cr, Alloyed With Tungsten, Molybdenum, and Niobium"

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works], No 77, Metallurgiya Press, 1970, pp 23-27

Translation: Experimental data are presented on the oxidation resistance of ferritic steels with 2.5% Cr, additionally alloyed with tungsten, molybdenum, niobium and additives of boron and titanium.

It is demonstrated that EP503 steel with 8% W and EP504 steel with 5% W and 5% Mo, designed for operation in power installations, have satisfactory high-temperature oxidation resistance at up to 700°C. Alloying of the steel with molybdenum up to 5% and decreasing the content of niobium decrease the oxidation resistance of the steel; the addition of boron and titanium slightly decrease oxidation resistance. 2 figures; 1 table; 6 biblio. refs.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR

UDC 669.15 - 194:621.785.7.001.5

VARLI, K. V., GORCHAKOVA, E. N., LANSKAYA, K. A., RIVLIN, A. M., and SKAKOV, Yu. A., Moscow Institute of Steel and Alloys

"Structural and Phase Changes in Ferrite Steel During Heat Treatment"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Chernaya Metallurgiya, No 9, 1970, pp 117-121

Abstract: A study was made of structural and phase changes in EP-503 ferrite steel containing 6% W during heat treatment. The tests were conducted 1) after forging with 960-840°C end temperature, with subsequent water and furnace cooling; and 2) after hardening at 1200°C with subsequent water cooling. The temperature interval of the Fe_2W phase precipitation and related changes in hardness, lattice period of solid solution, and electric resistance were determined. Microstructures of the steel after forging, hardening, and tempering under various conditions are presented, and results are given of metallographic analysis of the steel after hardening at 1200°C. The lattice period of a solid solution of forged samples at certain temperatures is smaller than that of hardened samples, owing to the precipitation of Fe_2W phase particles during forging. The variation of particle size and lattice periods of the Fe_2W phase with tempering temperature we determined.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR

UDC 669.1.017.001.5

LANSKAYA, K. A., and LOGUNOV, V. V.

"Recrystallization Processes in Ferritic Type EP503 and EI439 Steel"

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works], No 77, Metallurgiya Press, 1970, pp 18-22

Translation: The process of recrystallization of hardened and unhardened ferritic EP503 and EI439 steels is studied.

The temperature intervals of recrystallization are established for the steels studied as functions of the degree of deformation. It is demonstrated that the steel with 8% W (EP503), hardened by the Lawes phase (Fe_2W) has a recrystallization temperature interval approximately 250° higher than the steel with 25% Cr. This interval lies between 900 and 1,000°C. As the content of tungsten is decreased to 5% in EP503 steel, the Lawes phase is practically not separated, which causes a decrease in the temperature of beginning and ending of recrystallization, although this interval is at higher temperatures than in the steel alloyed with 25% Cr (EI439). 2 figures; 2 tables; 3 biblio. refs.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR UDC 669.14.018.85

MIRKIN, I. L., LANSKAYA, E. A., TRUSOV, L. P., General Scientific Research Institute of Manufacturing Technology, Central Scientific Research Institute of Ferrous Metallurgy im. I. P. Bardin

"Prospects for the Development of New Heat-Resistant Materials for Steam Power Energy Equipment"

Moscow, Metallovedeniye, No 4, Apr 70, pp 8-15

Abstract: Analysis of steels presently used by the steam power industry in both the Soviet Union and abroad indicates that low-carbon low-alloy ferrite-perlite-type steels are best suited to meet the requirements for basic parts of steam boilers and turbines. The maximum total content of alloying elements in these steels is 4 percent. Chromium, molybdenum, and vanadium are the principal alloying elements. Tungsten, niobium, and other elements are used less frequently. Practical experience of operating steam power and gas turbine equipment shows that with strict adherence to the recommended technology of processing and treatment of power equipment components, and proper design and calculation of assembly conditions, the steels would afford 100,000

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hours of service. Today's trend of technical progress in power engineering is toward higher operating temperatures and pressures, coupled with ever increasing unit outputs. To meet the new requirements in heat resistance and workability, the development of new steels must be conducted in the following directions: 1) extending and maintaining the service life of the basic solid solution; 2) creating a more stable and slowly coagulating disperse strengthening phase. In low-alloy steels the carbide phase is the strengthening phase; in medium- and high-alloy steels -- the carbide phase as well as intermetallides (AB_2-type Laves phases); 3) strengthening the grain boundaries by microalloying. In the USSR work is presently in progress on establishing ratios of basic alloying elements, such as chromium and vanadium, in steel. Higher molybdenum contents raise the heat-resistant properties of the steel, provided most of it is ferrite and remains as (without going to the carbide phase) for long-term service. For this the basic part of the carbon must be combined with the other alloying elements, such as vanadium, into stable

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USSR

MIRKIN, I. L., et al., Metallovedeniye, No 4, Apr 70, pp 3-15

carbides. The separation of Laves phase particles in austenitic steels requires more time and much higher temperatures than in ferrite steels. This separation contributes to strengthening the steel. Plasticity for the entire service period is an essential characteristic which must be considered when selecting the steel. Creep limit is equally important, as is resistance to fatigue failure. The effort of raising the reliability of long-term service (100,000 hr.) of large power installations requires exact determination of creep rate and time before failure as a function of stress and temperature. The problem is complicated by the fact that during long-term service the heat-resistant steel sustains phase and structural changes, carbide transformations, coagulation of carbide particles, changes in carbide composition and in the basic solid solution with respect to the alloying elements and, finally, changes in its substructure. Most of these processes are related to diffusion phenomena. Successful solution of the basic problems in physical metallurgy and the technology of heat resistant steels, as well as advanced designs

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MIRKIN, I. L., et al., Metallovedeniye, No 4, Apr 70, pp 8-15

will make it possible to considerably increase the reliability and service life of high-capacity power equipment.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

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TITLE--PROSPECTS FOR DEVISING NEW HEAT RESISTANT MATERIALS FOR STEAM POWER PLANT EQUIPMENT -U-

AUTHOR-(03)-MIRKIN, I.L., LANSKAYA, K.A., TRUSOV, L.P.

COUNTRY OF INFO--USSR

SOURCE--METALLOVED. TERM. OBRAB. METAL. 1970, (4), 8-15

DATE PUBLISHED--------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS

TOPIC TAGS--HEAT RESISTANT MATERIAL, DISPERSION HARDENING, GRAIN BOUNDARY, MICROALLOYING, INTERMETALLIC COMPOUND, STEAM BOILER, STEAM TURBINE, CARBIDE, POWER PLANT, SOLID SOLUTION, ALLOY STEEL

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS REVIEW OF THE DEVELOPMENT OF NEW STEELS FOR THIS PURPOSE INCLUDES (1) INCREASING AND RETAINING FOR A LONGER OPERATIONAL TIME THE REFRACTORINESS OF THE FUNDAMENTAL SOLID SOLN., (2) DEVELOPMENT OF A MORE STABLE AND SLOWLY COALESCING DISPERSION HARDENING PHASE: IN LOW ALLOY STEELS THE DISPERSION HARDENING PHASE IS THE CARBIDE PHASE, IN MEDIUM AND HIGH ALLOY STEELS IT IS ALSO THE CARBIDE PHASE, AND ALSO THE INTERMETALLIC PHASES (LAVES PHASES OF THE AB SUB2 TYPE), (3) STRENGTHENING OF THE GRAIN BOUNDARIES BY MICRO ALLOYING.

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USSR

UDC 669.15-194.56:620.186.1

LANSKAYA, K. A., KAMENSKAYA, N. I., FAYVILEVICH, G. A., and KUTNEVA, N. I., Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin

"The Effect of Boron on the Distribution and Quantity of Carbide Phases in Austenite Steel"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 10, 1972, pp 43-45

Abstract: Boron added in different amounts to 1Kh14N18V2B heat-resistant austenite steel influences the distribution, size, and quantity of NbC particles in the steel. Addition of 0.005, 0.017, and 0.1E B leads to coagulation of NbC particles and changes their shape from rodlike to spheroidal. When the concentration of B reaches 0.26% the congulated NbC particles are dissolved and Nb becomes a part of the solid solution. The presence of 0.005, 0.017, and 0.26% B decreases the concentration of C from 69 to 28 atomic % and increases the concentration of Cr from 8 to 51 atomic %. This decreases the concentration of $M_{23}C_6$ in steel and increases the amount of Cr in borides. Evidently part of C in $M_{23}C_6$ becomes substituted with B. In addition to borides the boron forms a eutectic structure in this steel at high temperature (1300°C). The quantity and composition

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LANSKAYA, K. A., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 10, 1972, pp 43-45

of borides in the eutectic structure is determined by the concentration of boron. In the presence of 0.017% B the boride phase M_3B_2 is formed; when the concentration of B reaches 0.017-0.1%, M_3B_2 and M_2B are formed. The phase M_2B is formed when the concentration of B exceeds 0.1%. The eutectic structure in the steel under consideration consisted of a mixture of NbC and borides.

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USSR

UDC 621.039.53

SUKHOTIN, A. M., LANTRATOVA, N. YA., ANTROPOV, N. P., SAMOYLYUK, P. P.

"Corrosion Kinetics of Stainless Steels and Aluminum in N_2O_4"

Dissotsiiruyushch. gazy kak teplonositeli i rab. tela energ. ustanovok -- V sb. (Dissociating Gases as Heat Transfer Agents and the Working Medium of Power Plants -- Collection of Works), Minsk, Nauka i Tekhn. Press, 1970, pp 115-121 (from RZh-Elektrotekhnika i Energetika, No 5, May 1971, Abstract No 5U179)

Translation: The studies of the corrosion strength of stainless steel and aluminum alloys in N_2O_4 which have been performed demonstrated that during the process of preliminary treatment a passive film is formed on the surface of the stainless steel. This film has good protective characteristics and permits a significant reduction in corrosion losses during the prestationary period at 50° C. A favorable consequence of passivation is reduction of the stationary corrosion rate by several times. There are 5 illustrations, 1 table and a 3-entry bibliography.

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USSR UDC 621.039.53

SUKHOTIN, A. M., LANTRATOVA, N. YA., MATUSHKIN, V. A., POLYAKOVA, R. YE., LATERNER, S. A.

"Strength of Building Materials in N_2O_4 at High Temperatures and Pressures"

Dissotsiiruyushch. gazy kak teplonositeli i rab. tela energ. ustanovok -- V sb. (Dissociating Gases as Heat Transfer Agents and the Working Medium of Power Plants -- Collection of Works), Minsk, Nauka i Tekhn. Press, 1970, pp 122-130 (from RZh-Elektrotekhnika i Energetika, No 5, May 1971, Abstract No 5U180)

Translation: Results are presented from a study of the strength of building materials in N_2O_4 at temperatures to 700° C and pressures to 150 absolute atmospheres under static conditions. A loss in weight is observed at a temperature of 100° C for all the tested materials. On making the transition to higher temperatures, the losses of weight of all the materials decrease and are gradually replaced by an increase in weight. The surface of the stainless steel samples is covered with dense oxide films. Increasing the pressure increases the corrosion rate by tens of times. There are 5 illustrations, 4 tables and a 3-entry bibliography.

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USSR

UDC 536.7

SUKHOTIN, A. M., LANTRATOVA, N. YA., MATUSHKIN, V. A., POKHAKOVA, R. YE., and LATERNER, S. A.

"Strength of Structural Materials in N_2O_4 at High Temperatures and Pressures"

Dissotsiiruyushch. Gazy kak Teplonositeli i Rab. Tela Energ. Ustanovok (Dissociating Gasses as Heat Transfer Media and Working Fluids of Power Installations — collection of works), Minsk, Nauka i Tekhn. Press, 1970, pp 122-130 (from Referativnyy Zhurnal-Yadernyye Reaktory, No 4, 1971, Abstract No 4.50.136)

Translation: In connection with the possibility of using N_2O_4 as a coolant for an atomic power plant, the corrosion resistance of structural materials is studied in an equilibrium mixture of gaseous oxides of nitrogen at temperatures up to 700°C and pressure up to 150 atm. Tests of the corrosion resistance of metal materials in N_2O_4 under static conditions were performed at temperatures of 100 and 500° and pressures of 20 and 50 atm. At 100°, weight loss was observed for all materials tested. At high temperatures, the weight losses of all materials decreased and were gradually replaced by weight gain. The surface of stainless steel specimens is covered by a

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USSR

SUKHOTIN, A. M., et al., Dissotsiiruyushch. Gazy kak Teplonositeli i Rab. Tela Energ. Ustanovok, Minsk, Nauka i Tekhn. Press, 1970, pp 122-130 (from Referativnyy Zhurnal-Yadernyye Reaktory, No 4, 1971, Abstract No 4.50.136)

compact oxide film. Increasing the pressure increases the rate of corrosion by over 10 times. 4 figures; 4 tables; 3 biblio. refs.

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Acc. Nr: AP0053378

Abstracting Service: CHEMICAL ABST. 4-70

Ref. Code: UR0072

82473e Effect of some metal oxides on the acid resistance and fusibility of enamels. Lants, N. I. (USSR). *Steklo Keram.* 1970, 27(1), 28-9 (Russ). The effect of 0.2-10 mole % MnO, FeO, CaO, ZnO, ZrO_2, and Bi_2O_3 on the fusibility and acid resistance of an enamel composed of SiO_2 65, B_2O_3 7.5, M_2O 27.5 mole %, and 3 parts by wt. F was investigated. By adding to this enamel 1-5 mole % Bi_2O_3 + MnO + FeO or MnO + FeO an acid resistant (0.05 mg/cm² to 20% soln; HCl at 97-8° for 4 hr) enamel that matured at 780° was obtained. M_2O were introduced at the ratio $Na_2O:K_2O:Li_2O$ = 0.3-0.5:0.1:0.4-0.5.

Abram Cherikoff

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USSR UDC 612.176-05:612.461:[612.124:547.962.4

LANTSBERG, L. A., and NEKRASOVA, A. A., Institute of Cardiology imeni A. L. Myasnikov, Academy of Medical Sciences USSR, and All-Union Institute of Physical Culture, Moscow

"Participation of Kidney and Blood Kinins in Adaptation to Physical Exercise"

Moscow, Kardiologiya, No 9, 1972, pp 58-63

Abstract: A group of 70 persons age 18 to 35 (30 "intellectuals" in good health but not active in sports and 40 well-trained athletes) was required to operate a bicycle ergometer with steadily increasing resistance until they were physically unable to continue. In the untrained individuals, exercise decreased the excretion of the kinins, kallikrein and sodium with urine but stimulated the blood kinins. In the athletes, on the other hand, exercise increased the excretion of kinins and kallidrein with urine but had no effect on sodium. The better condition the athlete was in, the more the renal kinin system was stimulated. However, the response of the athletes blood kinins to thephysical exertion was less pronounced than in the "intellectuals". Thus, regular training alters the blood and renal kinins. The state of these systems may be one of the humoral mechanisms responsible for the high hemodynamic adaptation capacity of well-conditioned athletes.

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LANTSBERG, L. A.

SO: JPRS 53392
17 Jun 71

UDC 612.766.2.015.31

CHANGES IN HUMAN WATER-MINERAL METABOLISM DURING WATER IMMERSION

[Article by L. A. Lantsberg, A. V. Zorokhov, [illegible] and Yu. A. Lantsberg and Yu. A. Polyakov, Moscow, Kosmicheskaya biologiya i meditsina, Moscow, Vol 5, No 1, 1971, pp 15-19, submitted for publication 5 June 1970]

Abstract: The effect of a 5-day water immersion test (involving five young healthy male test subjects) on the state of mineral metabolism was investigated. An increase in diuresis (early water) and a change in urinary electrolyte excretion was observed. Variations in the renal function of water and ion excretion during the immersion experiment were accompanied by an increase in sodium and potassium content in the plasma and erythrocytes. During the first to third days after the experiment water and mineral excretion was delayed. During the experiment the hematocritic index increased substantially, possibly an indirect indication of a reduction in the volume of circulating plasma, and accordingly, the blood concentration. Following the immersion test significant changes were noted in the immunization index in response to a standard load. Mechanisms of the observed changes are discussed.

In recent studies it has been demonstrated that restriction of motor activity results in definite changes in water-mineral metabolism. In experiments with persons who had undergone immersion in an immersed state there was found to be retention of sodium in intracellular media (Genetin, et al.; Bryant, et al.; Whitfield, et al., and others). The preservation of eliminated fluid over the consumed quantity is accompanied by increased excretion of nitrogen, potassium, calcium, phosphorus and sodium (Ye. S. Bigunov, et al.; L. I. Kakurin; Beckman, et al.; Gilbert, et al.; Peters, et al., and others).

However, it is known that the electrolyte balance exerts a direct effect on the functional state of the cardiovascular system. Accordingly, it becomes clear why so much interest is being shown in changes in biochemical

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USSR UDC: 621.374.335

VAVILOV, Ye. N., YEGOROV, B. M., LANTSEY, V. S., TOTSENKO, V. G.

"Synthesis of Circuits Based on Threshold Elements"

Sintez skhem na porogovykh elementakh (cf English above), Moscow, "Sov. radio", 1970, 368 pp, ill. 1 r. 30 k. (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1G203 K)

Translation: The authors consider conditions for realizability of a switching function by one threshold element. Methods are outlined for synthesizing logic circuits and automata based on threshold elements. The different kinds of threshold elements are described. A number of standard discrete-action units and circuits based on threshold elements are considered. Methods are given for synthesizing circuits based on threshold elements with regard to reliability requirements. A table of threshold functions of six variables is presented. Methods of synthesis are reduced to algorithms which are convenient for use in engineering practice, and illustrative examples are given. Bibliography of 29 titles. Annotation.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR UDC:681.325.65:512.952

VAVILOV, Ye. N., YEGOROV, B. M., LANTSEV, V. S., TOTSENKO, V. G.

"Synthesis of Systems Using Threshold Elements"

Sintez Ustroystv na Porogovykh Elementakh [English version above], Moscow, Sovetskoye Radio Press, 1970, 368 pp

Annotation: Conditions are analyzed under which a switching function can be realized by one threshold element. Methods are presented for synthesis of logic circuits and automata based on threshold elements. Varieties of threshold elements are described. A number of standard units and discrete circuits based on threshold elements are analyzed. Methods are presented for synthesis of circuits based on threshold elements. Methods are presented for synthesis of circuits based on threshold elements considering the requirements of reliability. A table of threshold functions of six variables is presented.

The methods of synthesis are reduced to algorithms convenient for use in engineering practice and are illustrated with examples.

126 tables; 92 figures; 29 biblio. refs.

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USSR

VAVILOV, Ye. N. et al., Sintez Skhem na Porogovykh Elementakh, Moscow, Sovetskoye Radio Press, 1970, 368 pp

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VAVILOV, Ye. N. et al., Sintez Skhem na Porogovykh Elementakh, Moscow, Sovetskoye Radio Press, 1970, 368 pp

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VAVILOV, Ye. N. et al., Sintez Skhem na Porogovykh Elementakh, Moscow, Sovetskoye Radio Press, 1970, 368 pp

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VAVILOV, Ye. N. et al., Sintez Skhem na Porogovykh Elementakh, Moscow, Sovetskoye Radio Press, 1970, 368 pp

CHAPTER 5.
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VAVILOV, Ye. N. et al., Sintez Skhem na Porogovykh Elementakh, Moscow, Sovetskoye Radio Press, 1970, 368 pp

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VAVILOV, Ye. N. et al., Sintez Skhem na Porogovykh Elementakh, Moscow, Sovetskoye Radio Press, 1970, 368 pp

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR UDC 681.142.644.3

ADERIKHIN, V. P., GOLIKOVA, T. G., KUZ'MICHEV, V. I., LANTSMAN, B. I., LESKOV, V. G., RUDAKOV, A. N., and SOBOLEVA, E. I.

"A Device for Calculating a Partial Derivative"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 12, Apr 72, Author's Certificate No 334574, Division G, filed 22 Dec 70, published 30 Mar 72, p 184

Translation: This Author's Certificate introduces a device for calculating a partial derivative. The device contains a servo system for the independent variable and a servo system for the differentiable function which are based on integrators. The inputs of the integrators are connected through corresponding switches to the outputs of the corresponding scalers. The device also contains a comparator with a reference voltage source connected to one of its inputs. As a distinguishing feature of the patent, computing precision is improved by adding a delay line, logic devices, a memory unit, and an additional switch. The output of the scalar in the independent-variable servo system is connected to the first input of the logic device and to the second input of the comparator. The output of the comparator is connected to the controlling input of the additional switch. This switch

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ADERIKHIN, V. P., et al., Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 12, Apr 72, Author's Certificate No 334574, Division G, filed 22 Dec 70, published 30 Mar 72, p 184

connects the output of the scaler in the function servo system to the second input of the logic device, and through a delay line to the controlling inputs of the servo system switches. The memory unit is connected to the output of the logic device.

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UDC 62-531.4

USSR

ZAKIROV, A.S., KORELOV, I.V., LANTSMAN, B.I., LESKOV, V.G.

"Electromechanical Tracking System"

USSR Author's Certificate No 263715, Filed 4/02/69, Published 15/06/70 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 12, 1970, Abstract No 12 A278P)

Translation: An electromechanical tracking system is suggested, containing an amplifier, motor with reducing gear, tachometer generator, angle sensor, and load. The system is distinguished by the fact that in order to increase the accuracy, it also contains an angle sensor connected to the input of the amplifier, an electromagnetic switching clutch connecting the load axis either to the main angle sensor or to the supplementary sensor, and a commutator, the normally closed contact of which is connected into the circuit connecting the point of addition of the input signal and the feedback signal from the main angle sensor to the input of the amplifier, while the normally open contact is connected in the power supply circuit of the electromagnetic clutch winding.

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USSR

UDC 536.24

DOROSHCHUK, V. Ye., Doctor of Technical Sciences, LANTSMAN, F. P., Engineer, All-Union Heat Engineering Institute

"Selection of the Values of the Critical Thermal Fluxes in the Boiling of Water in Vertical Pipes With Uniform Heating"

Moscow, Teploenergetika, No 12, 1970, pp 17-19

Abstract: An analysis is made of the experimental data, published in world literature, of the critical thermal fluxes in round pipes with the flow of underheated water and a steam-water mixture. The obtained results are recommended as the most reliable data on critical thermal fluxes. 3 figures, 1 table, 6 bibliographic entries.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR UDC 621.791.4:052:539.378.3:669.14:669.71

KOPYLOV, YU. N., Candidate of Technical Sciences (Kuybyshev Aviation Institute), and LANTSMAN, P. SH., Engineer

"Electron-Microscopic Investigation of Steel-Aluminum Joints Welded Without Smalting"

Moscow, Svarochnoye Proizvodstvo, No 2 (460), Feb 73, pp 15-16

Abstract: The electron-microscopic method was used to study the breakdown surface of welded joints of 1Kh18N10T stainless steel with AMg6 alloy and AD1 aluminum, in order to determine the interaction of these materials on welding without smelting. Bimetal specimens of 1Kh18N10T steel and AMg6 alloy produced by V-welding in vacuum, with and without introduction of AD1 interlayer, were investigated. In pressure welding of the specimens after heating them up to 520-570°C, the V-shaped edge of the steel detail intruded into the face of the aluminum detail. The interrelationship of the breakdown character with the growth of the intermetallic phase in the contact zone of the welded joint was established. In the initial development stages, the intermetallides are not evident by methods of optical microscopy, but they already influencing the plastic characteristics of the joint. Three figures, six bibliographic references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR UDC 616.282.74-616.833.18-099-92

LANTSOV, A. A., LENINGRAD Scientific Research Institute of Ear, Nose, Throat, and Speech Disorders

"Mechanism of Toxic Disturbances of the Acoustic Analysor"

Moscow, Vestnik Otorinolaringologii, No 6, 1971, pp 61-65

Abstract: The mechanism of development of toxic injury to the ear was studied with the aid of quinine, an ototoxic agent that fluoresces in ultraviolet light and thus lends itself to quantitative assay. Following enteral or parenteral injection, quinine spreads to the acoustic analysor through the blood. It gradually accumulates in the peripheral segment of the auditory nerve and spiral ganglion from which it is eventually transported by the perilymph to the labyrinth, resulting in irreversible impairment of its function. If the inflow of quinine (or any other ototoxic substance) is halted, the process can be reversed due to gradual resorption from the cochlear nerve and spiral ganglion. Three clinical phases of poisoning of the ear can be distinguished: (a) action of the toxic agent on the spiral ganglion and peripheral segment of the auditory noise (clinically manifested by noise in the ears); (b) spread of the toxic agent with perilymph to the labyrinth and its action on the receptor endings of the auditory nerve (clinically manifested

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR

LAMTSOV, A. A., Vestnik Otorinolaringologii, No 6, 1971, pp 61-65

by impairment of hearing due to injury to the cells that perceive acoustic stimulation and intensification of noise); (c) irreversible destruction of the acoustic function, which often results in complete.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR

UDC 576.8.095.5

BRESLER, S. Ye., LANTSOV, V. A., and MANUKYAN, L. R., Institute of High Molecular Compounds, Academy of Sciences USSR, Leningrad

"The Mechanism of Genetic Recombination During Bacterial Conjugation. III. Clonal Analysis of the Heterogeneous Progeny of Exconjugants Bearing a System of Close Genetic Markers"

Moscow, Genetika, Vol 6, No 8, Aug 70, pp 116-134

Abstract: During the conjugation of Escherichia coli Hfr and F⁻ cells, merozygotes are formed which replicate as diploids and segregate recombinants. The segregation process is completed in 8-10 generations. Two possibilities of zygote formation may be assumed: 1) tandem insertion of a DNA donor fragment into the recipient chromosome by a process similar to the Campbell mechanism; 2) parallel insertion, in which the donor fragment remains in a state of synapsis along the recipient chromosome. Specific predictions can be formulated for both schemes. In experiments on the conjugation of E. coli Hfr and F⁻ cells, five closely located genetic markers (three prophage and two bacterial) were employed. All of the groups found in the clonal analysis of 60 exconjugants were in agreement with the predictions for the tandem insertion mechanism. Since the statistical data were not extensive, the conclusions reached were qualitative. However,

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BRESLER, S. Ye., et al, Genetika, Vol 6, No 8, Aug 70, pp 116-134

calculations showed that the probability of a random fluctuation leading to the same correlation was less than 4%.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

1/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--HISTOCHEMISTRY OF CATECHOLAMINES AND OF SOME ENZYMES IN THE INTRASCLERAL PASSAGES OF THE OCULAR FLUID OUTFLOW IN GLAUCOMA -U-
AUTHOR--LANTUKH, V.V.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK OFTAL'MOLOGII, 1970, NR 3, PP 39-42

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--EYE DISEASE, HISTOCHEMISTRY, CATECHOLAMINE, SUCCINATE DEHYDROGENASE, ACID PHOSPHATASE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/1932 STEP NO--UR/0357/70/000/003/0039/0042

CIRC ACCESSION NO--AP0127333

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

2/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127333

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ANTERIOR PORTION OF THE SCLERA WAS STUDIED HISTOCHEMICALLY IN 36 PATIENTS SUFFERING FROM PRIMARY GLAUCOMA. WITH THE AID OF MICROPHOTOMETRY THE AUTHOR DISCLOSED A MATERIAL INTENSIFICATION OF HISTOCHEMICAL REACTIONS TO CATECHOLAMINES, CYTOCHROMOXIDASE, SUCCINIC DEHYDROGENASE AND ACID PHOSPHATASE TAKING PLACE IN THE ANTERIOR PASSAGES OF THE INTRAOCULAR FLUID OUTFLOW IN PRIMARY GLAUCOMA. THE ACTIVITY OF THE REACTION TO TRUE CHOLINESTERASE AND ALKALINE PHOSPHATASE WAS GREATLY REDUCED BY COMPARISON WITH CONTROLS. THE POSSIBILITY OF QUINOID WAY IN THE METABOLISM OF THE DEPOSITED SYMPATHETIC MEDIATOR IS DISCUSSED. FACILITY: KAFEDRA GLAZNYKH BOLEZNEY I KAFEDRA GISTOLOGII VLADIVOSTOKSHOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR

UDC: 519.24(02)

IVAKHNENKO, A. G., LAPA, V. G.

"Prediction of Random Processes"

Predskazaniye sluchaynykh protsessov (Prediction of Random Processes), Kiev, "Naukova dumka", 1971, 416 pp, ill. 3 r. 47 k. (from RZh-Kibernetika, No 12, Dec 71, Abstract No 12V421 K)

[No abstract]

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR UDC 547.75'821.07:542.944'958

YAKHONTOV, L. N., and LAPAN, Ye. I., All-Union Scientific Research Chemical and Pharmocological Institute imeni S. Ordzhonikidze, Moscow

"Derivatives of Azaindoles. XLI. Synthesis of 3-Substituted 5-Azaindoles"

Riga, Khimiya Geterotsiklicheskikh Soyedinaniy, No 11, 1972, pp 1528-1530

Abstract: The electrophilic cyanomethylation, bromination, nitration, and Mannich reaction of 5-azaindoles were performed, and in spite of literature reports to the contrary, are analogous to the reactions for the 4- and 7-isomers. Preparation, yield, and characteristics are given for the compounds 3-bromo-5-azaindole; 5-azagramine; 1-phenyl-5-azagramine; 5-azaindole-3-acetonitrile; 5-azaindonyl-3-acetic acid; amide 5-azaindonyl-3-acetic acid; and the cyanomethylation of 5-azaindole.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

1/2 OCS UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--AERATED CONCRETES -U-

AUTHOR-(05)-SHVARTZAYD, M.S., LAPARDIN, V.N., KRYZHANOVSKIY, B.B., LEONTYEV, YE.N., ZEMTSOV, D.G.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 267,427

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--PATENT, CONCRETE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1402 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128801

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

UNCLASSIFIED PROCESSING DATE--20NOV70

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CIRC ACCESSION NO--AA0126801

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CELLULAR CONCRETES BASED ON GROUND QUICKLIME AND SILICEOUS COMPONENTS WERE PREPD. BY 2 STAGE MIXING OF THESE COMPONENTS. IN THE 1ST STAGE ALL DRY COMPONENTS WERE MIXED WITH THE ADDN. OF 70-100PERCENT WATER. THE MIXT. WAS ALLOWED TO STAND WHILE THE TEMP. WAS LOWERED TO 35-40DEGREES. THEN THE MIXT. WAS THIXOTROPICALLY THINNED BY PUTTING INTO IT A STEAM GENERATOR AND THE REMAINING WATER, AND THEN IT WAS MIXED A 2ND TIME. FACILITY: ALL UNION SCIENTIFIC RESEARCH INSTITUTE OF CONSTRUCTION MATERIALS AND CONSTRUCTION.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR UDC: 620.171.3

ROZENTAL', L. V., LAPAURI, A. A., MEYERZON, M. B., and SUCHKOVA, O. M., State Scientific Research and Designing Institute of the Photographic Chemical Industry; All-Union Scientific Research Institute of Motion-Picture Photography, Moscow

"An Instrument for Measuring Internal Stresses in Films, and Film Deformation"

Moscow, Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematofotografii, Vol I, No 1, Jan-Feb 72, pp 22-26

Abstract: The authors have designed, and thoroughly tested an apparatus, provisionally called the IMPS, which is distinguished from other known units for testing and evaluating the mechanical processes of photographic films, by virtue of the possibility of the synchronous measurement, under the same climatic conditions, of the deformation kinetics at constant tension in one sample, and in another sample of the same film, measurement of the kinetics of the increase and relaxation of tensions with the maintenance of constant length of the sample. 5 figures. 9 references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

UDC 611.85

USSR

LAPAYEV, E. V. and PLATONOV, N. B.

"Experimental and Mathematical Analysis of the Effect of Rotary Acceleration on the Vestibular Apparatus"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 3, 1973, pp 357-363

Abstract: Mathematical calculations showed that normal and rotary accelerations act on the vestibular apparatus during curvilinear motion. The relative magnitude of the rotary moment, which is derived from the difference in the radii of rotation of the opposite sides of the semicircular canal, was found to be the main factor involved in the mechanism of stimulation of the capula and endolymph. The mathematical calculations were confirmed by 45 experiments performed on rabbits. With an increase in the radius of curvilinear motion, a decrease in the rotary moment rather than an increase in the centrifugal force plays the major role in the mechanisms of inhibition of the nystagmic reaction.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

UDC 616.281-008.35+615.216.85-071

USSR

LAPAYEV, E. V., Candidate of Medical Sciences, UDALOV, YU. F., Doctor of Medical Sciences, and KHALATOV, O. P.

"The Pharmacological Effect of Pyridoxine and Its Combination With Adenosine Triphosphoric Acid on the Functional State of the Vestibular Analysor"

Kiev, Zhurnal Ushnykh, Nosovykh, i Gorlovykh Bolezney, No 5, Sep/Oct 71, pp 15-19

AbstractL An evaluation was made by the cupulometric method of the effect of pyridoxine and its combination with an equal amount of adenosine triphosphoric acid on the dynamics of the illusion of counterrotation and of the duration, frequency, and amplitude of postrotatory nystagmus. Test results demonstrated that whereas pyridoxine had a positive effect on the functional state of the vestibular analysor in the case of an initial deficit of this vitamin in the body, its combination with adenosine triphosphoric acid was effective with a satisfactory supply of the substance present prior to the test. The preparation may be recommended as an effective means of preventing or reducing any marked illusory sensations of vestibular origin, an important factor in modern aviation, by lowering the reactivity of the vestibular analysor to the effect of stimulants while increasing vestibular stability.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

Physiology

USSR

UDC 523:612.015.3:611.85

LAPAYEV, E. V., PAVLOV, G. I., SIDEL'NIKOV, I. A., UDALOV, Yu. F., YUGANOV, Ye. M., and CHEINOKOVA, N. A.

"The Effect of Linear and Angular Accelerations on Some Metabolic Indices"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 4, 1970, pp 515-520

Abstract: Exposure of human subjects to linear and angular accelerations produced definite shifts in protein and vitamin metabolism. Some of the shifts were quite specific to vestibular stimulation -- decrease in transamination activity, increased excretion of amino acids with decreased excretion of total nitrogen, and relative increase in content of the replaceable acids and amino acids involved in transamination reactions in the blood (aspartic and glutamic acids, glutamine, alanine). The shifts were more pronounced after Coriolis accelerations than after linear accelerations.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR UDC 621.313.322-81.013.8

LARAYEV, K. V.

"Some Results of Testing the Excitation System of TVV Series Turbo Generators"

Elektrosila -- V sb. (Electric Power -- Collection of Works), No 26, Leningrad, Energiya Press, 1970, pp 18-21 (from RZh-Elektrotekhnika i Energetika, No 2, Feb 71, Abstract No 2 Ye123)

Translation: This article contains a discussion of the basic results of testing an industrial operation of the excitation systems of TVV series turbo generators using PP-rectifiers and an AC generator as the exciter. The absence of sliding contacts on the exciter makes the system reliable in operation. The test results demonstrated that the parameters of the excitation system correspond to the calculated parameters. The excitation system satisfies the proposed requirements in all operating modes of the turbo generators. There are 3 illustrations, 3 tables and a 1-entry bibliography.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR

UDC 621.313.322-81.013.8

ALEKSEYEVA, L. G., LAPAYEV, K. V., SHTRAFUN, YA. N., SHUSTERMAN, M. N.

"Study of the Excitation System of the 500 Megawatt Turbo Generator"

Elektrosila -- V sb. (Electric Power -- Collection of Works), No 28, Leningrad, Energiya Press, 1970, pp 15-18 (from RZh-Elektrotekhnika i Energetika, No 2, Feb 71, Abstract No 2 Ye124)

Translation: All-around testing of the TVV-500-2 turbo generator with an excitation system and an automatic excitation regulator have been performed. A more powerful subexciter with permanent magnets (30 kilowatts) has been used for the first time in the excitation system of the TVV-5-0-2 turbo generator to feed the automatic regulator, and the PP measuring element, to improve the speed of the system. The excitation system studies were performed in the idling and short circuit modes of the turbo generators. The characteristics of the excitation system obtained coincide closely with the calculated characteristics. There are 3 illustrations.

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UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/70

243695 SYNCHRONOUS GENERATOR EXCITER UNIT in which the exciter itself is connected to an auxiliary a.c. generator on the same shaft as the synchronous generator 1. This simplifies construction and increases reliability. In order to broaden the range of regulatable circumstances, a controllable semi-conductor rectifier 6 is used as the exciter. 17.10.62. as 799210/24-7.
Ya.N.SHTRAFUN et al. (29.9.69.) Bul.17/14.5.69.
Class 21d^2. Int.Cl. H02p.

AUTHORS: Shtrafun, Ya. N., Alekseyeva, L. G., Tsapayev, Yu. V.

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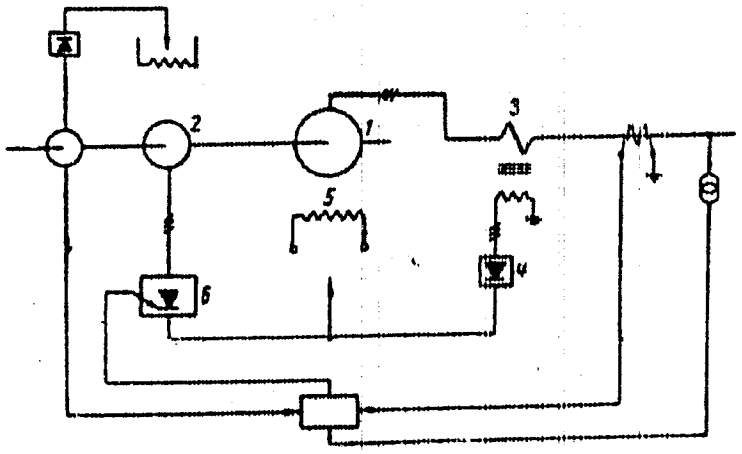

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR

UDC 612.886:613.166

YAGANOV, YE. M., Col Med Serv, Professor, Honored Scientist RSFSR, and
LAPAYEV, Z. V., Lt Col Med Serv, Candidate of Medical Sciences

"The Effect of High Temperature on Manifestation of Motion Sickness"

Moscow, Voyenno-Meditsinskiy Zhurnal, No 6, 1972, pp 86-88

Abstract: Ambient temperature of over 35°C increases sensitivity to acceleration and speeds up the development of motion sickness. This effect was revealed by Coriolis continuous cumulative acceleration (CCCA) tests, in which the subject turns his head right and left at an angle of at least 30° and at a rate of 30 turns/min while he is being rotated in a chair with an angular velocity of 180°/sec. In control tests performed at 20°C on 48 subjects who had passed aviation medicine examinations, 45% of the subjects endured the treatment for 15 min and more (group 0), 12% for 10-15 min (group I), 26% for 5-10 min (group II), 14% for 2-5 min (group III), and 3% for less than 2 min (group IV). Ambient temperature of 35°C reduced the resistance of only one subject. However, at 40-45°C, almost one-half of the subjects became less tolerant, increasing group IV to 26%. At 50°C, the effect was still more pronounced, with group IV comprising 35%. It is concluded that this type of examination is valuable for a stricter selection of aviation personnel.
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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

UDC 615.285.7.099

USSR

VOROB'YEVA, N. M., and LAPCHENKO, V. S., Laboratory of Toxicology, Kiev Scientific Research Institute of the Hygiene of Nutrition, Kiev

"The Toxicological Characteristics of the New Pesticide Antio"

Moscow, Farmakologiya i Toksikologiya, Vol 36, No 1, Jan-Feb 73, pp 104-107

Abstract: Antio[O,O-dimethyl S-(N-methyl,N-formylcarbamoylmethy) dithiophosphate] is an effective insecticide and acaricide for the treatment of fruit, vegetable, citrus, and other crops. Its toxicity to warm-blooded animals was investigated. LD_{100} was 125, 500, and 400; LD_{50} 83.3 $\pm$ 10.3, 218 $\pm$ 75.4, and 310 $\pm$ 41; and the threshold dose producing inhibition of the cholinesterase activity in the blood 5, 10, and 15 mg/kg for mice, male rats, and cats, respectively. The toxicity of Antio varied with the sex of the animals: LD_{50} was 635 $\pm$ 38 mg/kg for female rats vs. 218 $\pm$ 75.4 for male rats. The compound exerted a slight cumulative action. On repeated peroral administration, Antio produced, in addition to an inhibition of cholinesterase activity, disturbances in the functioning of the liver and morphological changes in this and other organs. Its threshold daily dose on peroral administration to rats was 0.38 mg/kg.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

1/2 010 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--THE USE OF COMPUTING EQUIPMENT IN PLANNING THE MATERIAL TECHNICAL SUPPLY OF THE UKRAINIAN SSR -U-

AUTHOR-(02)-LAPCHENKO, YU., BESEDIN, V.

COUNTRY OF INFO--USSR

SOURCE--KIEV, EKONOMIKA SOVETSKOY UKRAINY, NO 1, JAN 70, PP 92-96

DATE PUBLISHED----JAN70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES

TOPIC TAGS--CAPITAL CONSTRUCTION, INDUSTRIAL PRODUCTION, MATHEMATIC METHOD, COMPUTER APPLICATION, INDUSTRIAL PLANNING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1287 STEP NO--UR/0563/70/000/001/0092/0096

CIRC ACCESSION NO--AP0104625

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

UNCLASSIFIED PROCESSING DATE--16OCT70

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CIRC ACCESSION NO--AP0104625

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS ARTICLE IS A DETAILED HISTORICAL ACCOUNT OF THE EXPERIENCE OF THE UKRAINIAN SSR IN DEVELOPING AND INTRODUCING SYSTEMS FOR THE COORDINATION OF INDUSTRIAL PRODUCTION AND CAPITAL CONSTRUCTION PLANS WITH MATERIAL TECHNICAL SUPPLY PLANS THROUGH THE USE OF MATHEMATICAL METHODS AND MODERN ELECTRONIC COMPUTING EQUIPMENT.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

UDC 629.78:526.2+525.7

USSR

IL'INA, G. I. and LAPCHEVA, V. F.

"Results of the Comparison of Altitudes of the Upper Cloud Boundary, Obtained on the Basis of Satellite Measurements, With Radar Observation Data"

Tr. Gidrometeorol. N.-I. Tsentr SSSR (Works of the Hydrometeorological Scientific Research Center, USSR), No 89, 1971, pp 3-11 (from Referativnyy Zhurnal, Issledovaniye Kosmicheskogo Prostranstva, No 5, May 72, Abstract No 5.62.279, Resume)

Translation: Results of the comparison of computed altitudes of upper cloud boundaries with altitudes obtained from radar observations, over the 1970 summer period, are presented. The conclusion is drawn that altitudes calculated on the basis of satellite data are understated on the average by one km in comparison to altitudes obtained on the basis of radar probes. The procedure of utilization of charts of the upper cloud boundary in the practice of nepthologic analysis is presented.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

1/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--MUTAGENIC EFFECT OF ANTITUMOR ANTIBIOTICS BRUNEOMYCIN AND RUBOMYCIN AND SELECTION OF LINCOMYCIN PRODUCING ORGANISM -U-

AUTHOR--LAPCHINSKAYA, O.A.

COUNTRY OF INFO--USSR

SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 6, PP 494-500

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANTITUMOR DRUG EFFECT, ANTIBIOTIC/(U)BRUNEOMYCIN ANTIBIOTIC, (U)RUBOMYCIN ANTIBIOTIC, (U)LINCOMYCIN ANTIBIOTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1942 STEP NO--UR/0297/70/015/006/0494/0500

CIRC ACCESSION NO--AP0125531

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

2/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125531

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPOSURE OF THE LINCOMYCIN PRODUCING ORGANISM TO THE ANTITUMOR ANTIBIOTICS BRUNEOMYCIN AND RUBOMYCIN INCREASED THE FREQUENCY OF MUTATIONS WITH RESPECT TO MORPHOLOGICAL FEATURES AND LINCOMYCIN PRODUCTION. VARIANTS EXCEEDING THE INITIAL STRAIN BY THEIR ACTIVITY WERE OBTAINED WITH THE USE OF THE MUTAGEN EFFECT OF BRUNEOMYCIN AND RUBOMYCIN IN SELECTION OF THE LINCOMYCIN PRODUCING ORGANISM. FACILITY: INSTITUTE FOR NEW ANTIBIOTICS OF ACADEMY OF MEDICAL SCIENCES OF THE USSR, MOSCOW.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

Organ and Tissue Transplantation

USSR UDC 617.57/.58-089.843-0929-07:616.8-003.93-07

TIMOFEYEVA, O. N., and LARCHENKO, A. G., Department of Experimental Traumatology and Orthopedics, Central Scientific Research Institute of Traumatology and Orthopedics, Moscow

"Restoration of Innervation in Replanted Extremities of Dogs"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 4, 1970, pp 104-107

Abstract: By means of neurohistological techniques, the authors studied the peripheral innervation of replanted hind legs of seven dogs surviving the operation from one year and seven months to nine years and seven months. In the replanted limbs, when there were no postoperative complications, normal restoration of peripheral nerves and nerve endings was observed. The process of degeneration and subsequent restoration of the peripheral nervous system of replanted limbs was essentially similar after sterile amputations, nonsterile traumatic amputations, and when the limb had been preserved for more than 24 hours. In such experiments, the process of innervation restoration was similar to experimental section of the nerve and subsequent ligation.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR

LAPCHINSKIY, A. G., Doctor of Medical Sciences, Chief, Experimental Laboratory, Central Institute of Traumatology and Orthopedics

"Can the Incompatibility Barrier Be Overcome?"

Moscow, Trud, 25 Nov 70, p 4

Abstract: In an interview with a Trud correspondent, Doctor Lapchinskiy expressed confidence that the problem of tissue incompatibility will be solved in the not too distant future and that human arms and legs lost through accident or disease will be successfully replaced. His confidence is based to a considerable extent in experiments performed in his laboratory. In one study, for example, the natural blood of a puppy was replaced soon after its birth with blood from an adult dog. Two years later a paw taken from the adult dog effectively replaced an extremity amputated from the puppy. In experiments of a different kind, the rudiments of teeth can be removed from newborn puppies, kittens, and mice and transplanted to the mouths of adult animals at the site of extracted teeth. More solid, mineralized teeth will eventually develop. Doctor Lapchinskiy also discusses some of the problems involved in sewing back arms and legs lost accidentally, temporary storage of the limbs, and some of the Soviet-designed instruments for suturing tiny blood vessels.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

1/2 021 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--RESTORATION OF INNERVATION IN REPLANTED EXTREMITIES OF DOGS -U-

AUTHOR-(02)-TIMOFEYEVA, O.N., LAPCHINSKIY, A.G.

COUNTRY OF INFO--USSR

SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69, NR 4, PP 104-107

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TISSUE TRANSPLANT, DOG, NERVOUS SYSTEM, AMPUTATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1654 STEP NO--UR/0219/70/069/004/0104/0107

CIRC ACCESSION NO--AP0106400

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

2/2 021 UNCLASSIFIED PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0106400

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY MEANS OF NEUROHISTOLOGICAL TECHNIQUES THE AUTHORS STUDIED THE PERIPHERAL INNERVATION OF REPLANTED HIND LEGS OF 7 DOGS WHO LIVED AFTER THE OPERATION FROM 1 YEAR AND SEVEN MONTHS TO 9 YEARS AND SEVEN MONTHS. IN THE REPLANTED LIMBS IN THE ABSENCE OF POSTOPERATIVE COMPLICATIONS THER IS SEEN NORMAL RESTORATION OF PERIPHERAL NERVES AND NERVE ENDINGS. THE PROCESS OF DEGENERATION AND SUBSEQUENT RESTORATION OF THE PERIPHERAL NERVOUS SYSTEM OF REPLANTED LIMBS RAN A COURSE WITHOUT ESSENTIAL DIFFERENCES AFTER STERILE AMPUTATION. NONSTERILE TRAUMATIC AMPUTATION AND IN THE INSTANCE OF REPLANTATION OF THE LIMB PRESERVED FOR MORE THAN 24 HOURS IN AN ISOLATED STATE. IN SUCH EXPERIMENTS THE PROCESS OF INNERVATION RESTORATION RUNS A COURSE SIMILAR TO EXPERIMENTAL SECTION OF THE NERVE WITH ITS SUBSEQUENT LIGATION.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

AA0040514 Lapchinskiy, V. F. UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

239780 ARC DISCHARGE EXCITER has a switching control to increase the cathode area simultaneously with disconnection of the heating source. Prior to ignition a plasma forming gas (2) is passed through the burner (1), contactor (3) is closed, connecting branches (A,B) of the cathode in series. Cathode heating uses one section of the power source, the anode voltage being taken from section (D). When the arc discharge (7) develops current relay (8) opens contacts (9) and closes contacts (10), connecting the cathode branches in parallel, and both sections of the power source in series to give the required anode voltage. Variable resistance (11) controls the heating current and the current/voltage characteristics of the arc power source. This system can be used in arc welding under vacuum or in an inert atmosphere.

1.4.68 as 1229230/25-27. D.A.DUDKO et alia.E.O.A. PATON ELECTRIC WELDING INST. (24.7.69) Bul 11/18.3.69 Class 49h. Int.Cl.B 23k.

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19750018

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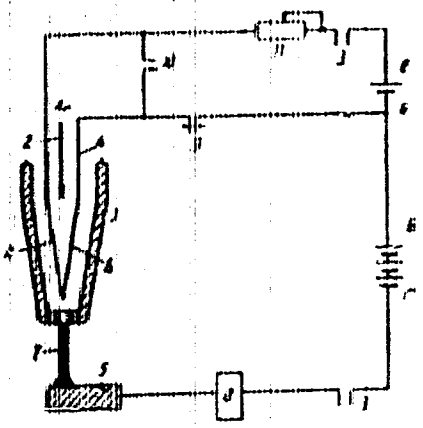
"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

AA0040514

AUTHORS: Dudko, D. A.; Lakiza, S. P.; Lapchinskiy, V. F. and Masalov, Yu. A.

Institut Elektrosvarki imeni Ye. O. Patona



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19750019

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

1/2 015 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--AN EXPERIMENTAL INVESTIGATION OF THIMBLE IONIZATION CHAMBERS FOR ROENTGEN AND GAMMA RADIATION -U-

AUTHOR--ARCHAKOV, A.A., VINOKUROVA, Z.A., LAPCHUK, I.V.

COUNTRY OF INFO--USSR

SOURCE--MEDITSINSKAYA RADIOLOGIYA, 1970, VOL 15, NR 3, PP 60-65

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--IONIZATION CHAMBER, PLASTIC, RADIATION DOSIMETER, X RAY MEASUREMENT, GAMMA SURVEY METER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/1678 STEP NO--UR/0241/70/015/003/0060/0065

CIRC ACCESSION NO--AP0101733

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

2/2 015 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0101733

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE DEALS WITH THE RESULTS OF EXPERIMENTAL INVESTIGATION OF THIMBLE IONIZATION CHAMBERS (VOLUME OF 2 CM PRIME3) PREPARED FROM DIFFERENT PLASTICS. IT IS SHOWN THAT THE RELATION BETWEEN THE SENSITIVITY OF THE CHAMBERS AND THE QUALITY OF RADIATION IS DETERMINED BOTH BY THE MATERIAL FROM WHICH THE CHAMBER (EXTERNAL ELECTRODE) IS MADE AND THE MATERIAL OF THE INTERNAL ELECTRODE. THIS ENABLES TO DECREASE MARKEDLY THE ENERGY DEPENDENCE BY SPECIAL CHOICE OF THE DESIGN. SIMILARLY, ONE COULD DESIGN INDIVIDUAL DOSIMETERS BASED ON THE REDISTRIBUTION OF THE CHARGE ON TWO CONDENSERS THROUGH THE IONIZATION VOLUME, FOR A WIDE RANGE OF EXPOSURE DOSES, WITH A SIGNIFICANT MECHANICAL RESISTANCE AND ENERGY DEPENDENCE ERROR OF 10PERCENT. THEORETICAL CALCULATION OF THE CHARACTERISTICS OF THE CHAMBERS IS VERY DIFFICULT, IN VIEW OF WHICH WHEN DESIGNING THE DEVICES THE CHOICE OF ELEMENTS OF THE DETECTOR IS EXPEDIENT TO CARRY OUT ON THE BASIS OF EXPERIMENTAL DATA.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

1/2 027 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--POLY(VINYL ETHERS) OF METHYLENE SUBSTITUTED D, GLUCOSE -U-

AUTHOR-(03)-SOPINA, V.E., LAPENKO, V.I., MIKHANTYEV, B.I.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN, SER. B 1970, 12(2), 159-60

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--VINYL COMPOUND, ETHER, GLUCOSE, METHYLENE, CATALYTIC POLYMERIZATION, POLYMER, OPTIC ACTIVITY, SOLUBILITY, BORON FLUORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/0936 STEP NO--UR/0460/70/012/002/0159/0160

CIRC ACCESSION NO--AP0055634

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

2/2 027 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0055634

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT.

6-VINYL-1,2:3,5-DIMETHYLENE-D-GLUCOSE WAS POLYMD. IN THE PRESENCE OF BF SUB3 OET SUB2 AT PLUS 3 TO MINUS 22DEGREES FOR 2-8 HR TO GIVE COLORLESS RESINS (MOL. WT. 1200-8200) IN 35-95PERCENT YIELD; SOL. IN DIOXANE AND HALOGENATED HYDROCARBONS. THE SOLNS. OF THE POLYMERS WERE OPTICALLY ACTIVE. POLY(6-VINYL-1,2:3,5-DIMETHYLENE, D-GLUCOSE) (MOL. WT. 1800-2100) WAS HYDROLYZED IN AQ. DIOXANE-ALC. SOLN BY REFLUXING THE MIXT. (IN THE PRESENCE OF H SUB2 SO SUB4 DISSOLVED IN ETOH) AT 70-90DEGREES FOR 40 HR. THE PRODUCT, POLY(6-VINYL-1,2-METHYLENE-D-GLUCOSE), WAS SOL. IN AQ. ALC.

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USSR

UDC 539.3

LAPENKO, V. V.

"On Certain Problems in Elasticity Theory for a Nonhomogeneous Wedge"

V sb. Materialy dokl. 8-y nauch.-tekhn. konf. Kishinev. politekhn. in-t (Papers From the Eighth Scientific-Technical Conference. Kishinev Polytechnical Institute -- Collection of Works), Kishinev, 1972, pp 279--281 (from RZh-Mekhanika, No 8, Aug 72, Abstract No 8V25)

Translation: Solutions are obtained for a nonhomogeneous wedge acted on by an arbitrary load on its surface and a concentrated force applied at the point of the wedge. The problem is reduced to the solution of a fourth-order differential equation for determining the stress function. The nonhomogeneity of the mechanical properties is given by the law

$$\beta_{ij} = \frac{\rho_{ij}}{r^k \psi(\theta)} > 0, \qquad \rho_{ij} = \text{const} \qquad (1) \qquad (1)$$

Various laws for the change in the function $\psi(\theta)$ are investigated. The

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LAPENKO, V. V., Materialy dokl. 8-y nauch.-tekhn. konf. Kishinev, politekhn. in-t, Kishinev, 1972, pp 279-281

solutions obtained are compared with corresponding solutions for a homogeneous wedge. The plane problem of linear elasticity theory is solved for a nonhomogeneous anisotropic wedge with nonhomogeneity of the form (1) under the action of a concentrated moment at the point. Analysis leads to the conclusion that control of nonhomogeneity makes it possible to regulate the stress state of the wing. Also considered is the problem of thermoelasticity for iso- and anisotropic wedges. A solution is also obtained in terms of the stress function, for which it is required to solve the corresponding fourthdegree differential equation. I. M. Rabkina.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

Stress Analysis and Stability Studies

USSR UDC 539.3

KOLCHIN, G. B., LAPENKO, V. V., Kishinev Polytechnical Institute

"Integral Transformations in the Elasticity Theory Problem for a Nonhomogeneous Wedge"

Kiev, Prikladnaya mekhanika, No. 11, Nov 71, pp 84-89

Abstract: It is shown that if the mechanical characteristics of the material of an infinite wedge are discontinuous functions of the coordinates, i.e., if the wedge is nonhomogeneous, methods used in classical plane problems of elasticity theory are also effective for certain types of inhomogeneities. The mechanical characteristics of the wedge are assumed to be discontinuous functions of the coordinates and under a change in these quantities, which is represented in the form of the product of a power function of the radius and an arbitrary function of the polar angle, the problem is reduced to a boundary value problem for ordinary differential equations with the aid of the Mellin transform. The case when the functional dependence of the mechanical characteristics on the polar angle has the form of an exponential function is investigated. The results are applicable to the particular problem when a concentrated force in any direction is applied at an arbitrary point of a nonhomogeneous isotropic wedge.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

Mechanical Properties

USSR UDC: 539.4

GINDIN, I. A., LAPIAZHVILI, E. S., NASKIDASHVILI, I. A., NEKLYUDOV, I. M., Tbilisi, Khar'kov

"Influence of Neutron Bombardment on Mechanical Properties and Effect of Programmed Hardening of Titanium"

Kiev, Problemy Prochnosti, No 8, Aug 73, pp 49-52.

Abstract: Results are presented from studies of the influence of neutron bombardment by integral doses of $1.2 \cdot 10^{18}$ n/cm^2 and $3.2 \cdot 10^{18}$ n/cm^2 at 130° C on the mechanical properties of polycrystalline titanium and the effect of additional hardening following annealing without load and under smoothly increasing load in the macroelastic area of deformation at 20 and 200° C. It is shown that bombardment increases the yield point by approximately 40%, while bombardment with subsequent annealing under smoothly increasing load increases the yield point of titanium to almost double its original value. VT-1 titanium was used in the study.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

1/2 024 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--ISOMERIZATION OF N,BUTENES ON NICKEL ZEOLITE CATALYSTS -U-

AUTHOR--ISAKOV, YA.I., LAPIDUS, A.L., AVETISYAN, R.V., SENDEL, A.K., MINACHEV, KH.M.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1), 57-63

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ISOMERIZATION, BUTENE, NICKEL, ZEOLITE, CHEMICAL KINETICS, CATALYST ACTIVITY, DIMERIZATION, ETHYLENE, ION EXCHANGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/1674 STEP NO--UR/0062/70/000/001/0057/0063

CIRC ACCESSION NO--AP0200278

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

2/2 024 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0200278

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETIC DATA WERE REPORTED IN GRAPHIC AND TABULAR FORM FOR THE TITLE REACTIONS OF A MIXT. OF 1 AND 2 BUTENES OVER SYNTHETIC ZEOLITES WITH VARYING AMTS. NI, CA AND DY, PREPD. BY PREVIOUSLY REPORTED METHODS. THE ZEOLITES OF TYPES CAA, CAX, CAY, DY AND HM AS WELL AS NI,CONTG. DERIVS. WERE VERY ACTIVE IN TRANSPOSITION OF DOUBLE BOND IN THE BUTENES AND THE MOST ACTIVE WERE NI-NAY, CAX, 5PERCENT NI-DY AND 5PERCENT NI-HM CONTACTS. THE ZEOLITES OF THE Y TYPE SHOWED INCREASING ACTIVITY WITH INCREASING DEGREE OF EXCHANGE OF NA BY NI IONS. BESIDES TRANSPOSING THE DOUBLE BOND, THE CATALYSTS ALSO BROUGHT ABOUT FORMATION OF MECH: CH SUB2 AND HIGHER HYDROCARBONS, MAINLY AMYLENES, AS WELL AS INTERCONVERSION OF CIS AND TRANS FORMS OF BUTENES. THE SUGGESTION OF PRIMARY FORMATION OF 2 BUTENE ON ION EXCHANGING NI, ZEOLITE CATALYST IN DIMERICATION OF C SUB2 H SUB4 WAS CONFIRMED.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

1/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--ON THE PROCESSES WITH K MESON DOUBLE STRANGE EXCHANGE -U-

AUTHOR-(03)-LAPIDUS, L.I., TARASOV, A.V., TSEREN, CH.

COUNTRY OF INFO--USSR

SOURCE--(JINR P2-5028) LAB. OF NUCLEAR PROBLEMS). 1970. 18P. DEP. CFSTI

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--EXCHANGE REACTION, K MESON, HELIUM ISOTOPE, MESON INTERACTION, STRANGE PARTICLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/2188 STEP NO--UR/0000/70/000/000/0018/0018

CIRC ACCESSION NO--AT0127552

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

2/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0127552

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROCESS OF DOUBLE STRANGENESS EXCHANGE INTERACTIONS OF KAONS WITH NUCLEI IS DISCUSSED. THE FINAL STATES IN K PRIME NEGATIVE MINUS PRIME4 HE INTERACTIONS ARE PRESENTED WITH PROPER THRESHOLDS AND HYPERNUCLEI WHICH CAN BE PRODUCED. POSSIBLE KAON DOUBLE STRANGE EXCHANGE PROCESSES ON DEUTERONS ARE PRESENTED. THE DEVIATION OF THE CROSS SECTION IS CONSIDERED ON THE GLAUBER APPROXIMATION. ESTIMATES ARE GIVEN FOR THE DOUBLE STRANGENESS EXCHANGE CROSS SECTIONS ON NUCLEONS AND ON DEUTERONS. FACILITY: JOINT INST. FOR NUCLEAR RESEARCH, DUBNA USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

D. Programming and Mathematical Machine Theory

USSR UDC: 8.74

LAPIDUS, L. I.

"Concerning a Method of Optimum Modification of Circuit Modules"

Moscow, Kibernetich. sistemy avtomatiz. proyektir.--sbornik (Cybernetic Automated Design Systems--collection of works), 1973, pp 81-88 (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V595 by O. Belkin)

Translation: For digital devices, an urgent problem is that of altering finished devices. The urgency of this problem is not diminished for digital devices developed with the aid of automated design systems. The problem of altering a finished circuit module can be formulated in general as a problem of synthesizing a modified circuit module with maximum utilization of the connections available in the initial module. A universal procedure (with respect to different methods of assembly) and one which minimizes the possibility of error provides for: 1) deleting unnecessary connections by disconnecting all wires from certain leads in the initial module, and b) adding new connections by introducing jumpers. The author considers a formalized presentation of the problem of optimum modification of circuit modules, and a method of solving it which

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LAPIDUS, L. I., Kibernetich. sistemy avtomatiz. proyektir., 1973, pp 81-88

is oriented-toward computer realization. The formalization is done in terms of the theory of graphs.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

1/2 017 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--SPECIFIC HEAT OF AQUEOUS POTASSIUM HYDROXIDE SOLUTIONS AT TEMPERATURES SMALLER THAN 400DEGREES -U-

AUTHOR-(03)-PUCHKOV, L.V., BARANOVA, T.A., LAPIDUS, M.E.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(2), 455-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--TEMPERATURE DEPENDENCE, SPECIFIC HEAT, POTASSIUM COMPOUND, HYDROXIDE, SODIUM HYDROXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/0452 STEP NO--UR/0090/70/043/002/0455/0457

CIRC ACCESSION NO--AP0104065

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

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CIRC ACCESSION NO--AP0104065

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TEMP. DEPENDENCE OF SP. HEAT OF AQ. KOH SOLNS. (5 TO 50 WT. PERCENT KOH) WAS DETD. AT 25 TO 400DEGREES. THE SP. HEAT INCREASES UP TO 100DEGREES, IS PRACTICALLY CONST. UP TO 150DEGREES, AND INCREASES AT TEMPS. GREATER THAN 150DEGREES. DIFFERENCES IN THE SP. HEAT AND TEMP. DEPENDENCE OF KOH AND NAOH ARE DISCUSSED. V. VESELY.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR

UDC: 621.9.06-229.64

IOFFE, B. A., LAPIUS, M. Kh., and PHEYS, V. V. [Physics Institute, Latvian Academy of Sciences]

"Device for Sorting Nonmagnetic Bodies Asymmetrical in Electrical Conductivity"

Avt. sv. SSSR, kl. B 23 d 33/02, No 312322, zayavl. 25.12.68, opubl. 26.01.72 (Author's Certificate, USSR, class B 23 d 33/02, No 312322, claimed 25 December 1968, published 26 January 1972) (from RZh--Avtomatika, telemekhanika i vychislitel'naya tekhnika, No 2, 1973, Abstract No 2A485P)

Translation: A device is proposed for sorting nonmagnetic bodies which are asymmetrical in electrical conductivity and located in a pulsed magnetic field formed by an electromagnet creating a concentrated magnetic flux. Two illustrations.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR

UDC: 538.56:533.9.02

KOVNER, M. S., LAPIDUS, V. A., and LUPANOV, G. A.

"Radiation of Electric and Magnetic Dipoles in the Hollow Formed by a Plasma Layer"

Gor'kiy, Izvestiya VUZ--Radiofizika, Vol. 14, No. 1, 1971, pp 28-35

Abstract: The radiation of an electric and a magnetic dipole at the center of a dielectric sphere of given radius and a given dielectric constant surrounded by a spherical plasma layer having a dielectric constant of some other value is considered. The purpose of this analysis is to determine the characteristics of the dipoles, examining first the electric dipole and then the magnetic dipole. For the first of these, the authors begin with the wave equations for the vector potential A, obtaining equations for the electric and magnetic fields in terms of it. Because the expressions obtained for the antenna radiation resistance in three different regions of the space surrounding the antenna are too awkward, the authors resort to quasi-static and wave approximations. The magnetic dipole is similarly treated, beginning with E and H

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720004-3

USSR

KOVNER, M. S., Izvestiya VUZ--Radiofizika, Vol 14, No 1, 1971, pp 28-35

equations in terms of a magnetic potential. The radiation spectrum is plotted, and it is found that the field cannot penetrate the plasma layer at frequencies approaching zero. The authors express their gratitude to A. A. Andronov and Yu. V. Chugunov for their comments.

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